

# **EXHIBIT**

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# Smith Economics Group, Ltd.

A Division of Corporate Financial Group

*Economics / Finance / Litigation Support*

*Stan V. Smith, Ph.D.  
President*

July 30, 2019

Mr. John M. Eubanks  
Motley Rice  
28 Bridgeside Blvd.  
Mt. Pleasant, SC 29464

Re: Sanchez

Dear Mr. Eubanks:

You have asked me to calculate the value of certain losses subsequent to the death of Jesus Sanchez. These losses are: (1) the loss of wages and employee benefits; (2) the loss of housekeeping and household management services; and (3) the loss of the value of life ("LVL"), also known as loss of enjoyment of life.

#### QUALIFICATIONS AND EXPERIENCE

I am President of Smith Economics Group, Ltd., headquartered in Chicago, IL, which provides economic and financial consulting nationwide. I have worked as an economic and financial consultant since 1974, after completing a Research Internship at the Federal Reserve, Board of Governors, in Washington, D.C. My curriculum vitae lists all my publications in the last 10 years and beyond.

I received my Bachelor's Degree from Cornell University. I received a Master's Degree and my Ph.D. in Economics from the University of Chicago; Gary S. Becker, Nobel Laureate 1992, was my Ph.D. thesis advisor. The University of Chicago is one of the world's preeminent institutions for the study of economics, and the home of renowned research in the law and economics movement.

As President of Smith Economics, I have performed economic analyses in a great variety of engagements, including damages analysis in personal injury and wrongful death cases, business valuation, financial analysis, antitrust, contract losses, a wide range of class action matters, employment discrimination, defamation, and intellectual property valuations including evaluations of reasonable royalty.

I have more than 40 years of experience in the field of economics. I am a member of various economic associations and served for three years as Vice President of the National Association of Forensic Economics (NAFE) which is the principal

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association in the field. I was also on the Board of Editors of the peer-reviewed journal, the Journal of Forensic Economics, for over a decade; I have also published scholarly articles in this journal. The JFE is the leading academic journal in the field of Forensic Economics.

I am the creator and founder of Ibbotson Associates' Stock, Bonds, Bills, and Inflation (SBBI) Yearbook, Quarterly, Monthly, and SBBI/PC Services. SBBI is currently published by Duff & Phelps and is also available on various Morningstar, Inc. software platforms. SBBI is widely relied upon and regarded as the most accepted and scholarly reference by the academic, actuarial and investment community, and in courts of law. The SBBI series, which acknowledges my "invaluable role" as having "originated the idea" while Managing Director at Ibbotson Associates, is generally regarded by academics in the field of finance as the most widely accepted source of statistics on the rates of return on investment securities.

I wrote the first textbook on Forensic Economic Damages that has been used in university courses in various states; as an adjunct professor, I created and taught the first course in Forensic Economics nationwide, at DePaul University in Chicago. I have performed economic analysis in many thousands of cases in almost every state since the early 1980s.

## BACKGROUND

Jesus Sanchez was a 45.5-year-old, Hispanic, single male, who was born on [REDACTED], and died on September 11, 2001. Mr. Sanchez's remaining life expectancy is estimated at 36.1 years. This data is from the National Center for Health Statistics, United States Life Tables, 2015, Vol. 67, No. 7, National Vital Statistics Reports, 2018. I assume an estimated trial or resolution date of January 1, 2020.

In order to perform this evaluation, I have reviewed the following materials: (1) tax returns from 1998 through 2001; (2) the Certificate of Death; (3) a job offer letter from United Airlines dated March 18, 1999; (4) United Airlines Passenger Service Employees Benefits Summary; (5) an Employee Check Register and Ground Pay Detail Listing for United Airlines for pay dates from April 15, 1999 through September 13, 2001; (6) a paycheck from United Airlines dated September 13, 2001; (7) pay stubs from Continental Airlines for pay periods ending January 23, 1997 and January 30, 1997; (8) a report by Donald Frankenfeld dated August 3, 2005; and (9) the case information form.

My methodology for estimating the losses, which is explained below, is generally based on past wage growth, interest rates, and consumer prices, as well as studies regarding the value of

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life. The effective net discount rate using statistically average wage growth rates and statistically average discount rates is 0.25 percent.

My estimate of the real wage growth rate is 1.00 percent per year. This growth rate is based on Business Sector, Hourly Compensation growth data from the Major Sector Productivity and Costs Index found at the U.S. Bureau of Labor Statistics website at [www.bls.gov/data/home.htm](http://www.bls.gov/data/home.htm), Series ID: PRS84006103, for the real increase in wages primarily for the last 20 years.

My estimate of the real discount rate is 1.25 percent per year. This discount rate is based on primarily the rate of return on short-term U.S. Treasury investment for the last 20 years. The data is from the statistical series H.15 Selected Interest Rates, published by the Board of Governors of the Federal Reserve System found at [www.federalreserve.gov](http://www.federalreserve.gov). This data is also published in the Economic Report of the President Table for "Bond yields and interest rates" for the real return on U.S. Treasury investments.

Estimates of real growth and discount rates are net of inflation based on the Consumer Price Index (CPI-U), published in monthly issues of the U.S. Bureau of Labor Statistics, CPI Detailed Report (Washington, D.C.: U.S. Government Printing Office) and available at the U.S. Bureau of Labor Statistics website at [www.bls.gov/data/home.htm](http://www.bls.gov/data/home.htm), Series ID: CUUR0000SA0. The rate of inflation for the past 20 years has been 2.16 percent.

## I. LOSS OF WAGES AND EMPLOYEE BENEFITS - Annual Employment

Tables 1 through 9 show the loss of wages and benefits. Mr. Sanchez was a Customer Services Representative for United Airlines at the time of his death. Mr. Sanchez worked for Continental Airlines for 10 years before starting at United on April 5, 1999. Mr. Sanchez's starting pay was \$7.64 per hour, and his pay had increased to \$10.03 per hour at the time of his death. Additionally, Mr. Sanchez received shift pay of \$0.58 per hour. Mr. Sanchez earned \$45,334 in 1998, his last full year at Continental, and he earned \$34,191 in 2000, his first full calendar year at United. Based on Mr. Sanchez's pay stubs, his hourly rate averaged \$9.40 in 2000 and \$9.93 in 2001. Mr. Sanchez's average earnings were \$595.93 per week in 2001 prior to his death, which projects to \$30,988 annually.

Based on the Passenger Service Employees 2016 - 2021 Agreement Between United Airlines and The International Association of Machinists and Aerospace Workers (IAMAW), Customer Service Representatives are paid according to the Customer Service Classification. According to the pay chart for Customer Service Classification, the hourly rate for 11 years or more was \$25.22 per hour as of January 1, 2016. Based on the contract,

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the hourly rate increases to \$29.87 as of November 15, 2016, \$30.47 as of December 1, 2017, \$31.23 as of December 1, 2018, \$32.01 as of December 1, 2019, \$32.65 as of December 1, 2020, and \$33.30 as of December 1, 2021. This results in annualized hourly pay rates of \$25.80 in 2016, \$29.92 in 2017, \$30.53 in 2018, \$31.30 in 2019, and \$32.06 in 2020, and pay increases of 15.96 percent in 2017, 2.05 percent in 2018, 2.49 percent in 2019, and 2.46 percent in 2020. Based on Mr. Sanchez's average hourly rate in 2001 of \$9.93 and the contract annualized hourly rate of \$25.80 in 2016, his pay rate is projected to increase by 6.58 percent per year from 2001 to 2016.

The wage estimate is illustrated at \$30,988 in 2001 based on Mr. Sanchez's average weekly earnings in 2001. The wage estimate is illustrated to increase from 2001 to 2016 at 6.58 percent per year based on the increase from Mr. Sanchez's 2001 average annual hourly rate of \$9.93 to the 2016 annualized contract hourly rate for 11 or more years of service of \$25.80. Based on the union contract, wages are projected to grow at 15.96 percent in 2017, 2.05 percent in 2018, 2.49 percent in 2019, and 2.46 percent in 2020. Future wages are grown at 1.0 percent real wage growth.

Employee benefit estimates are based on actual benefit information from United as well as data from the U.S. Department of Labor, Bureau of Labor Statistics, [Employer Cost of Employee Compensation - December 2018](http://www.bls.gov/ect), 2019, found at [www.bls.gov/ect](http://www.bls.gov/ect). Based on the Passenger Service Employees Benefits Summary, United offers medical and dental insurance and pays 75 percent of the cost. Additionally, United provides a pension plan with a 2 percent employer contribution as well as a 401(k) plan. Employees can also participate in the Employee Stock Ownership Plan. Lastly, employees have unlimited, space available travel on United for a small service charge. Based on the IAMAW union contract, United offers medical and dental plans and pays up to 80 percent of the premiums. United also offers a vision plan, flexible spending account plans, and retiree medical benefits. United continues to offer both a pension plan and 401(k) plan. Based on the union contract, the United pension plan contribution as of January 1, 2020 is \$2.00 per hour, which is approximately 6.24 percent of Mr. Sanchez's estimated 2020 hourly rate. United's contribution to the 401(k) is based on service, and United matches up to \$300 per year for the first five years, up to 1 percent for between 5 and 10 years, up to 2 percent for between 10 and 15 years, and up to 3 percent for over 15 years. Additionally, the contract includes a profit-sharing plan for employees of United's pre-tax profit up to a profit margin of 6.9 percent and 10 percent thereafter. I have assumed that employee benefits grow at the same rate as wages and are discounted to present value at the same discount rate. Since these tables assume annual work, I do not include employee benefits relating to unemployment, injury, illness or disability. Based on the union contract, benefits are conservatively estimated at 27.43

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percent of wages based on 6.23 percent pension contribution, 3.0 percent 401(k) contribution, Social Security of 6.2 percent, and statistically average health insurance benefits of 12 percent.

Personal consumption is an offset of the income. I use a personal consumption offset based on a study by Ruble, Patton, and Nelson, "Patton-Nelson Personal Consumption Tables 2011-12," Journal of Legal Economics, Vol. 21, No. 1, 2014, pp. 41-55, based on data from the U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey, 2011-12," Washington DC, 2012, which shows personal consumption for a 3-person household to be 21 percent through 2002, 20 percent from 2003 through 2006, 19.1 percent for 2007 through 2009, 18.3 percent in 2010, and 17.6 percent in 2011, when Mr. Sanchez's father passed away. Personal consumption for a 2-person household is illustrated at 23.1% in 2012, 22.2 percent in 2013 and 2014, 21.4 percent in 2015 and 2016, and 20 percent in 2017. Personal consumption for a 1-person household is illustrated at 52.25 percent starting in 2018.

I assume annual employment each year and show the accumulation through life expectancy. While these tables are calculated through the end of life expectancy, the losses from working through any age can be read off the table.

Based on the above assumptions, my opinion of the wage loss is \$2,035,831 ► Table 9; this figure assumes work to age 81.6, but the ability to work through any assumed age may be read from Table 9; for example, the loss to age 67 is \$1,225,940.

## II. LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOUSEHOLD MANAGEMENT SERVICES

Tables 10 through 12 show the pecuniary loss of tangible housekeeping chores and household management services. The number of hours of housekeeping and household management services for a single, working male is illustrated at 11.58 hours per week for youngest child age 6 to 12 through 2007, 10.73 hours per week for youngest child age 13 and over through 2017, 13.62 hours per week for ages 55 and over with no children, through 2023, and for a retired, single male is 19.75 hours per week for ages 62 to 74 through 2031 and 17.32 hours per week for ages 75 and older from 2032 and thereafter. This data is based on the American Time Use Survey published by the Bureau of Labor Statistics, [www.bls.gov/tus](http://www.bls.gov/tus), usefully summarized in a publication by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018.

The hourly value of the housekeeping and household management services is based on the mean hourly earnings of carpenters; maintenance and repair workers; painters, construction and

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maintenance; childcare workers; waiters and waitresses; cooks, private household; laundry and dry-cleaning workers; maids and housekeeping cleaners; landscaping and groundskeeping workers; bookkeeping, accounting and auditing clerks; and taxi drivers and chauffeurs, which is \$16.54 per hour in year 2018 dollars. This wage data is based on information from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2018 National Occupational Employment and Wage Statistics found at [www.bls.gov/oes](http://www.bls.gov/oes). This figure is corroborated by the average hourly values published by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018, which is also based on the BLS Occupational Employment Statistics. A discussion of these services can be found in the **Household Services Valuation Appendix**. The hourly value of these services grows at the same rate as the wage growth rate discussed above.

I assess such services at their estimated market value which includes a conservative estimate of 50 percent hourly non-wage component reasonably charged by agencies or free-lance individuals who supply such services on a part-time basis, and who are responsible for advertising, hiring and vetting, training, insuring and bonding the part-time service provider, and who are also responsible for pay-related costs such as social security contributions, etc. If a person were to hire a free-lance employee directly instead of going through an agency, then he or she would have to take on the responsibility for all the non-wage costs that the agency would otherwise incur and then charge for. The money the person would pay directly in wages would be only a portion of the total costs. The total costs would include those items discussed above that the agency would otherwise incur.

Adding the non-wage component to the hourly wage is consistent with labor market theory and competitive market behavior. Peer-reviewed economic research supports this theory and shows that the non-wage costs can average up to 300 percent for the wage. See, for example, Cushing, Matthew J. and David I. Rosenbaum, "Valuing Household Services: A New Look at the Replacement Cost Approach," Journal of Legal Economics, Vol 19, No. 1, 2012, pp. 37-60, wherein the authors found that non-wage costs exceed wage costs by 167 percent. This is more than triple the 50 percent non-wage costs amount I use, discussed above. Also see Smith, David A., Stan V. Smith, and Stephanie R. Uhl, "Estimating the Value of Family Household Management Services: Approaches and Markups," Forensic Rehabilitation & Economics, Vol 3, No. 2, 2010, pp. 85-94. According to this research, the statistical probability is 99 percent that the non-wage costs exceed 250 percent of the wage cost. The use of only a 50 percent non-wage cost makes my estimate very conservative, and it far more than compensates for two possible variations: variations in the national wage depending on locality, and variations in different types of services actually performed in the household. Thus even

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if one or more of the different types of services are not performed, and even if the services are provided in low wage areas, my use of the low, 50 percent non-wage costs more than compensates for these factors.

According to Merry Maids, a national home cleaning service agency, the charges for their services within the largest 100 Metropolitan Statistical Areas with populations of 500,000 and up range from \$40 to \$65 per hour, averaging \$49 per hour, in 2012. This hourly rate reflects non-wage costs of 250 percent of wages, and after adjusting for market factors, is four times the non-wage costs figure that I use, resulting in an hourly rate of more than double the rate that I use. Thus my use of only a 50 percent addition for non-wage costs is, in fact, very conservative.

Based on these assumptions, and Jesus Sanchez's life expectancy of 81.6 years, my opinion of the loss of the value of housekeeping and household management services is \$638,392 ► Table 12.

### III. LOSS OF VALUE OF LIFE

Tables 13 through 15 show the loss of the value of life. Economists have long agreed that life is valued at more than the lost earnings capacity. My estimate of the value of life is based on many economic studies on what we, as a contemporary society, actually pay to preserve the ability to lead a normal life. The studies examine incremental pay for risky occupations as well as a multitude of data regarding expenditure for life savings by individuals, industry, and state and federal agencies. Based on the average value of a statistical life and life expectancy of 81.6 years, my opinion of the loss of the value of life for Jesus Sanchez is \$4,541,321 ► Table 15.

My estimate of the value of life is consistent with estimates published in other studies that examine and review the broad spectrum of economic literature on the value of life. Among these is "The Plausible Range for the Value of Life," Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, by T. R. Miller. This study reviews 67 different estimates of the value of life published by economists in peer-reviewed academic journals. The Miller results, in most instances, show the value of life to range from approximately \$1.6 million to \$2.9 million dollars in year 1988 after-tax dollars, with a mean of approximately \$2.2 million dollars. In "The Value of Life: Estimates with Risks by Occupation and Industry," Economic Inquiry, Vol. 42, No. 1, May 2003, pp. 29-48, Professor W. K. Viscusi estimates the value of life to be approximately \$4.7 million dollars in year 2000 dollars. An early seminal paper on the value of life was written by Richard Thaler and Sherwin

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Rosen, "The Value of Saving a Life: Evidence from the Labor Market." in N.E. Terlickyj (ed.), Household Production and Consumption. New York: Columbia University Press, 1975, pp. 265-300. The Meta-Analyses Appendix to this report reviews additional literature suggesting a value of life of approximately \$5.4 million in year 2008 dollars.

Because it is generally accepted by economists, the economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. Proof of general acceptance and other standards is found in a discussion of the extensive references to the scientific economic peer-reviewed literature on the value of life listed in the **Value of Life Appendix** to this report.

The underlying, academic, peer-reviewed studies fall into two general groups: (1) consumer behavior and purchases of safety devices; (2) wage risk premiums to workers; in addition, there is a third group of studies consisting of cost-benefit analyses of regulations. For example, one consumer safety study analyzes the costs of smoke detectors and the lifesaving reduction associated with them. One wage premium study examines the differential rates of pay for dangerous occupations with a risk of death on the job. Just as workers receive shift premiums for undesirable work hours, workers also receive a higher rate of pay to accept a increased risk of death on the job. A study of government regulation examines the lifesaving resulting from the installation of smoke stack scrubbers at high-sulphur, coal-burning power plants. As a hypothetical example of the methodology, assume that a safety device such as a carbon monoxide detector costs \$46 and results in lowering a person's risk of premature death by one chance in 100,000. The cost per life saved is obtained by dividing \$46 by the one in 100,000 probability, yielding \$4,600,000. Overall, based on the peer-reviewed economic literature, I estimate the central tendency of the range of the economic studies to be approximately \$4.9 million in year 2019 dollars.

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Other factors may be weighed to determine if these estimated losses for Jesus Sanchez should be adjusted because of special qualities or circumstances that economists do not as yet have a methodology for analysis.

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In each set of tables, the estimated losses are calculated from September 11, 2001 through an assumed trial or resolution date of January 1, 2020, and from that date thereafter. The last table in each set accumulates the past and future estimated losses. These estimates are provided as a tool, an aid, and a guide to assist the evaluation by others.

All opinions expressed in this report are clearly labeled as such. They are rendered in accordance with generally accepted standards within the field of economics and are expressed to a reasonable degree of economic certainty. Estimates, assumptions, illustrations and the use of benchmarks, which are not opinions, but which can be viewed as hypothetical in nature, are also clearly disclosed and identified herein.

In my opinion, it is reasonable for experts in the field of economics and finance to rely on the materials and information I reviewed in this case for the formulation of my substantive opinions herein.

If additional information is provided to me, which could alter my opinions, I may incorporate any such information into an update, revision, addendum, or supplement of the opinions expressed in this report.

If you have any questions, please do not hesitate to call me.

Sincerely,



Stan V. Smith, Ph.D.  
President




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#### APPENDIX: HOUSEHOLD SERVICES VALUATION

Courts have long recognized claims for the value of tangible household family services as an element of damages in personal injury and wrongful death cases, as an aspect of the pecuniary loss in such cases. These services are those that are provided by the injured family member to himself or herself and to other family members, without charge or cost. Other family members who may receive such services can include spouses, children, parents or siblings; such family members do not necessarily have to reside in the same household to receive such services.

Economists and courts have also long recognized that an appropriate method in valuing such tangible services is to value their estimated market-based costs by examining costs paid in labor markets that provide generally comparable services for. Thus, economists can value the service by looking at market equivalents from which a pecuniary standard can be established. This approach is set forth in the 1913 U.S. Supreme Court Decision, Michigan Central Railroad Company v. Vreeland, 227 U.S. 59 (1913). So this method is a century old.

The Supreme Court's suggestion in valuing compensable services in the Vreeland decision is a standard that is not rigid, but actually rather general: "[The] pecuniary loss or damage must be one which can be measured by some standard.... Compensation for such loss manifestly does not include damages by way of recompense for grief or wounded feelings." Michigan Central v. Vreeland.

Examples of lost household services that used to be performed by persons (whether fatally or non-fatally injured) can include physical chores such as mowing the lawn, painting the house, cleaning the windows, doing the laundry, washing and repairing the car, preparing the meals and doing the dishes, among others. For many decades economists have met the Supreme Court's general standard by using labor market equivalents for cooks, laundry workers, gardeners, maids, etc. in valuing the physical chores regarding housekeeping services.

Additionally, economists have recognized that tangible services to family members include services well beyond the physical housekeeping chores. For example, William G. Jungbauer and Mark J. Odegard, in Maximizing Recovery in FELA Wrongful Death Actions, in Assessing Family Loss in Wrongful Death Litigation: The Special Roles of Lost Services and Personal Consumption, Lawyers & Judges Publishing Co., 1999, pp. 284, indicate that a complete analysis of all services performed by family members includes much, much more than the physical housekeeping chores. Frank D. Tinari, in a peer-reviewed, scientific, economic journal article "Household Services: Toward a More Comprehensive Measure," Journal of Forensic Economics, Vol. 11, No. 3, Fall

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1998, pp. 253-265, expresses the same view. Dr. Tinari has been a tenured Professor at Seton Hall University, and is a former president of the National Association of Forensic Economics. There has been no peer-reviewed critique of this article since it appeared.

Jungbauer and Odegard indicate that a person may have provided services of many other professions such as that of a chauffeur, driving other family members to appointments, or that of a security guard, especially regarding the injury to a male spouse, etc. Every family member acts as a companion to other family members. And it is common for family members to act as counselors for one another, typically providing advice and counsel on important personal, family, medical, financial, career or other issues. The marketplace can and does value such items of loss. If the person cannot provide these services, or does so at a reduced capacity or rate, there is a distinct and definite loss to the other family members. These losses have a definite and easily measurable pecuniary value. Vreeland requires only that a "reasonable expectation" of loss of services be proven and that such loss be valued by some standard, presumably a reasonably-based economic standard, to allow recovery.

The economic literature on recovery of loss of services discusses an estimated market-oriented valuation cost method to assess the pecuniary value of the loss of accompaniment services, as well as the value of advice, guidance and counsel services that family members provide to one another, within a broadly defined scope of family services. See, for example, Frank D. Tinari, "Household Services: Toward a More Comprehensive Measure, " Journal of Forensic Economics, Vol. 11, No. 3, Fall 1998, pp. 253-265.

Finally, according to Chief Justice Robert Wilentz of the Supreme Court of New Jersey, in Green v. Bittner, 85 NJ 1, 1980, pp. 12, accompaniment services, to be compensable, must be that which would have provided services substantially equivalent to those provided by the companions often hired today by the aged or infirm, or substantially equivalent to services provided by nurses or practical nurses; and its value must be confined to what the marketplace would pay a stranger with similar qualifications for performing such services.

In valuing the household services that are provided by family members to one another, beyond the physical housekeeping chores, both the U.S Supreme Court and the New Jersey Supreme Court discuss looking at labor markets for the equivalent value of such services. This methodology is identical to the traditional approach that economists have been using for over four decades in valuing the physical chores involved in housekeeping services.

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## APPENDIX: VALUE OF LIFE

The economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. The Daubert standard sets forth four criteria:

1. Testing of the theory and science
2. Peer Review
3. Known or potential rate of error
4. Generally accepted.

**Testing of the theory and science** has been accomplished over the past four decades, since the 1960s. Dozens of economists of high renown have published over a hundred articles in high quality, peer-reviewed economic journals measuring the value of life. The value of life theories are perhaps among the most well-tested in the field of economics, as evidenced by the enormous body of economic scientific literature that has been published in the field and is discussed below.

**Peer Review** of the concepts and methodology have been extraordinarily extensive. One excellent review of this extensive, peer-reviewed literature can be found in "The Value of Risks to Life and Health," W. K. Viscusi, Journal of Economic Literature, Vol. 31, December 1993, pp. 1912-1946. A second is "The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World." W. K. Viscusi and J. E. Aldy, Journal of Risk and Uncertainty, Vol. 27, No. 1, November 2002, pp. 5-76. Additional theoretical and empirical work by Viscusi, a leading researcher in the field, can be found in: "The Value of Life", W. K. Viscusi, John M. Olin Center for Law, Economics, and Business, Harvard Law School, Discussion Paper No. 517, June 2005. An additional peer-reviewed article discusses the application to forensic economics: "The Plausible Range for the Value of Life," T. R. Miller, Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, which discusses the many dozens of articles published in other peer-reviewed economic journals on this topic. This concept is discussed in detail in "Willingness to Pay Comes of Age: Will the System Survive?" T. R. Miller, Northwestern University Law Review, Summer 1989, pp. 876-907, and "Hedonic Damages in Personal Injury and Wrongful Death

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Litigation," by Stan V. Smith in Gaughan and Thornton, eds., Litigation Economics, Contemporary Studies in Economic and Financial Analysis, Vol. 74, pp. 39-59, JAI Press, Greenwich, CT, 1993. Kenneth Arrow, a Nobel Laureate in economics, discusses this method for valuing life in "Invaluable Goods," Journal of Economic Literature, Vol. 35, No. 2, 1997, pp. 759. See the Meta-Analyses Appendix for an additional review of the literature.

**The known or potential rate of error** is well researched. All of these articles discuss the known or potential rate of error, well within the acceptable standard in the field of economics, generally using a 95% confidence rate for the statistical testing and acceptance of results. There are few areas in the field of economics where the known or potential rate of error has been as well-accepted and subject to more extensive investigation.

**General Acceptance** of the concepts and methodology on the value of life in the field of economics is extensive. This methodology is and has been generally accepted in the field of economics for many years. Indeed, according to the prestigious and highly-regarded research institute, The Rand Corporation, by 1988, the peer-reviewed scientific methods for estimating the value of life were well-accepted: "Most economists would agree that the willingness-to-pay methodology is the most conceptually appropriate criterion for establishing the value of life," Computing Economic loss in Cases of Wrongful Death, King and Smith, Rand Institute for Civil Justice, R-3549-ICJ, 1988.

While first discussed in cutting edge, peer-reviewed economic journals, additional proof of general acceptance is now indicated by the fact that this methodology is now taught in standard economics courses at the undergraduate and graduate level throughout hundreds of colleges and universities nationwide as well as the fact that it is taught and discussed in widely-accepted textbooks in the field of law and economics: Economics, Sixth Edition, David C. Colander, McGraw-Hill Irwin, Boston, 2006, pp. 463-465; this introductory economics textbook is the third most widely used textbook in college courses nationwide. Hamermesh and Rees's The Economics of Work and Pay, Harper-Collins, 1993, Chapter 13, a standard advanced textbook in labor economics, also discusses the methodology for valuing life. Other textbooks discuss this topic as well. Richard Posner, a Judge and former Chief Judge of the U.S. Court of Appeals for the highly regarded 7th Circuit and Senior Lecturer at the University of Chicago Law School, one of most prolific legal writers in America, details the Value of Life approach in his widely used textbooks: Economic Analysis of Law, 1986, Little Brown & Co., pp. 182-185 and Tort Law, 1982, Little Brown & Co., pp. 120-126.

As further evidence of general acceptance in the field, some surveys (albeit non-scientific) published in the field of

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forensic economics show that hundreds of economists nationwide are now familiar with this methodology and are available to prepare (and critique) forensic economic value of life estimates. Indeed, some economists who indicate they will prepare such analysis for plaintiffs also are willing to critique such analysis for defendants, as I have done. That an economist is willing to critique a report does not indicate that he or she is opposed to the concept or the methodology, but merely available to assure that the plaintiff economist has employed proper techniques. The fact that there are economists who indicate they do not prepare estimates of value of life is again no indication that they oppose the methodology: many claim they are not familiar with the literature and untrained in this area. While some CPAs and others without a degree in economics have opposed these methods, such professionals do not have the requisite academic training and are unqualified to make such judgements. However, as in any field of economics, this area is not without any dissent. General acceptance does not mean universal acceptance.

Additional evidence of general acceptance in the field is found in the teaching of the concepts regarding the value of life. Forensic Economics is now taught as a special field in a number of institutions nationwide. I taught what is believed to be the first course ever presented in the field of Forensic Economics at DePaul University in Spring, 1990. My own book, Economic/Hedonic Damages, Anderson, 1990, and supplemental updates thereto, co-authored with Dr. Michael Brookshire, a Professor of Economics in West Virginia, has been used as a textbook in at least 5 colleges and universities nationwide in such courses in economics, and has a thorough discussion of the methodology. Toppino et. al., in "Forensic Economics in the Classroom," published in The Earnings Analyst, Journal of the American Rehabilitation Economics Association, Vol. 4, 2001, pp. 53-86, indicate that hedonic damages is one of 15 major topic areas taught in such courses.

Lastly, general acceptance is found by examining publications in the primary journal in the field of Forensic Economics, which is the peer-reviewed Journal of Forensic Economics, where there have been published many articles on the value of life. Some are cited above. Others include: "The Econometric Basis for Estimates of the Value of Life," W. K. Viscusi, Vol 3, No. 3, Fall 1990, pp. 61-70; "Hedonic Damages in the Courtroom Setting," Stan V. Smith, Vol. 3, No. 3, Fall 1990, pp. 41-49; "Issues Affecting the Calculated Value of Life," E. P. Berla, M. L. Brookshire and Stan V. Smith, Vol 3, No. 1, 1990, pp. 1-8; "Hedonic Damages and Personal Injury: A Conceptual Approach," G. R. Albrecht, Vol. 5., No. 2, Spring/Summer 1992, pp. 97-104; "The Application of the Hedonic Damages Concept to Wrongful and Personal Injury Litigation," G. R. Albrecht, Vol. 7, No. 2, Spring/Summer 1994, pp. 143-150; and also "A Review of the Monte Carlo Evidence Concerning Hedonic Value of Life Estimates," R. F.

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Gilbert, Vol. 8, No. 2, Spring/Summer 1995, pp. 125-130. Professor Ike Mathur, while Chairman of the Department of Finance at Southern Illinois University wrote an article on how the value of life studies can be used to provide a basis for estimating the value of life per year in application to litigation. This article corroborates my approach: "Estimating Value of Life per Life Year." I. Mathur, Journal of Forensic Economics, Vol. 3, No. 3, 1990, pp. 95-96. As do many of the authors of applications of the value of life literature to litigation economics, Professor Mathur has frequently testified in court, and courts have admitted his testimony.

It is important to note that this methodology is endorsed and employed by the U. S. Government as the standard and recommended approach for use by all U. S. Agencies in valuing life for policy purposes, as mandated in current and past Presidential Executive Orders in effect since 1972, and as discussed in "Report to Congress on the Costs and Benefits of Federal Regulations," Office of Management and Budget, 1998, and "Economic Analysis of Federal Regulations Under Executive Order 12866," Executive Office of the President, Office of Management and Budget, pp. 1-37, and "Report to the President on Executive Order No. 12866," Regulatory Planning and Review, May 1, 1994, Office of Information and Regulatory Affairs, Office of Management and Budget. Prior presidents signed similar orders as discussed in "Federal Agency Valuations of Human life," Administrative Conference of the United States, Report for Recommendation 88-7, December 1988, pp. 368-408. 926




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**APPENDIX: META-ANALYSES AND VALUE OF LIFE RESULTS SINCE 2000**

Below I list the principal systematic reviews (meta-analyses), since the year 2000, of the value of life literature, and the values of a statistical life that they recommend. In statistics, a meta-analysis combines the results of several studies that address a set of related research hypotheses. Meta-analysis increase the statistical power of studies by analyzing a group of studies and provide a more powerful and accurate data analysis than would result from analyzing each study alone. Based on those reviews, the Summary Table suggests a best estimate. The following table summarizes the studies and their findings.

These statistically based studies place the value between \$4.4 and \$7.5 million, with \$5.9 million in year 2005 dollars representing a conservative yet credible estimate of the average (and range midpoint) of the values of a statistical life published in the studies in year 2005 dollars. Net of human capital, a credible net value of life based on all these literature reviews to be \$4.8 million in year 2005 dollars, or \$5.4 million in year 2008 dollars.

The actual value that I use, \$4.1 million in year 2008 dollars (\$4.9 million in year 2019 dollars) is approximately 24 percent lower than a conservative average estimate based on the credible meta-analyses. This value was originally based on a review conducted in the late 1980s, averaging the results published by that time. I have increased that late 1980s value only by inflation over time, despite the fact a review of literature over the years since that time has put obvious upward pressure on the figure that I use.

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VALUE OF STATISTICAL LIFE SUMMARY TABLE

Mean and range of value of statistical life estimates (in 2005 dollars) from the best meta-analyses and systematic reviews since 2000 and characteristics of those reviews.

Study	Formal Meta-Analysis?	Number of Values	Best Estimate (2005 Dollars)	Range	Context
Miller 2000	Yes	68 estimates	\$5.1M	\$4.5- \$6.2M	US estimate from all
Mrozek & Taylor 2002	Yes	203 estimates	\$4.4M	+ or - 35%	Labor market
Viscusi & Aldy 2003	Yes	49 estimates	\$6.5M	\$5.1- \$9.6M	Labor market, US estimate from all
Kochi et al. 2006	Yes	234 estimates	\$6.0M	+ or - 44%	Labor market survey
Bellavance 2006 (published in 2009)	Yes	37 estimates	\$7.5M	+ or - 19%	Labor market

Adapted from Ted R. Miller's paper "Hedonic Damages," Journal of Forensic Economics, Vol. 20, No. 2 (October 2008), pp. 137-153.

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Miller (2000) started from the Miller 1989 JFE estimates and used statistical methods to adjust for differences between studies. It also added newer studies, primarily ones outside the United States. The authors specified the most appropriate study approach *a priori*, which allowed calculation of a best estimate from the statistical regression. Miller, Ted R, "Variations between Countries in Values of Statistical Life", Journal of Transport Economics and Policy, Vol. 34, No. 2 (May 2000), pp. 169-188.

Mrozek and Taylor (2002) searched intensively for studies of the value of life implied by wages paid for risky jobs. They coded all values from each study rather than a most appropriate estimate. A statistical analysis identified what factors accounted for the differences in values between studies. The authors specified the most appropriate study approach *a priori*, which allowed calculation of a best estimate from the statistical regression. Mrozek, Janusz R. and Laura O. Taylor, "What Determines the Value of Life? A Meta-Analysis", Journal of Policy Analysis and Management, Vol. 21, No. 2 (2002), pp. 253-270.

Viscusi and Aldy (2003) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. W.K. Viscusi and J.E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World", Journal of Risk and Uncertainty, Vol. 27, No. 1 (2003), pp. 5-76.

Kochi et al. (2006) searched intensively for studies of the value of life implied by wages and coded all values from each study rather than a most appropriate estimate. They did not filter study quality carefully. The best estimate was derived by statistical methods based on the distribution of the values within and across studies. Kochi, Ikuho, Bryan Hubbell, and Randall Kramer, "An Empirical Bayes Approach to Combining and Comparing Estimates of the Value of a Statistical Life for Environmental Policy Analysis", Environmental and Resource Economics, Vol. 34 (2006), pp. 385-406.

Bellavance et al. (2009) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. Bellavance, Francois, Georges Dionne, and Martin Lebeau, "The Value of a Statistical Life: A Meta-Analysis with a Mixed Effects Regression Model," Journal of Health Economics, Vol. 28, Issue 2, (2009), pp. 444-464. 3A22

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## SUMMARY OF LOSSES FOR JESUS SANCHEZ

TABLE *****	DESCRIPTION	ESTIMATE
*****		
<u>EARNINGS</u>		
	LOSS OF WAGES & BENEFITS, NET OF PERSONAL CONSUMPTION	
9	Annual Employment to age 67	\$1,225,940
 ----- <u>HOUSEHOLD/FAMILY SERVICES</u>		
12	LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOME MANAGEMENT SERVICES	\$ 638,392
 ----- <u>LOSS OF ENJOYMENT OF LIFE</u>		
15	LOSS OF VALUE OF LIFE	\$4,541,321

The information on this Summary of Losses is intended to summarize losses under certain given assumptions. Please refer to the report and the tables for all the opinions.

LOSS OF PAST WAGES  
2001 - 2019

YEAR	AGE	WAGES	CUMULATE
*****	***	*****	*****
2001	45	\$9,424	\$9,424
2002	46	30,988	40,412
2003	47	33,027	73,439
2004	48	35,200	108,639
2005	49	37,516	146,155
2006	50	39,985	186,140
2007	51	42,616	228,756
2008	52	45,420	274,176
2009	53	48,409	322,585
2010	54	51,594	374,179
2011	55	54,989	429,168
2012	56	58,607	487,775
2013	57	62,463	550,238
2014	58	66,573	616,811
2015	59	70,954	687,765
2016	60	75,623	763,388
2017	61	93,409	856,797
2018	62	95,324	952,121
2019	63	97,702	\$1,049,823

SANCHEZ \$1,049,823

LOSS OF PAST EMPLOYEE BENEFITS  
2001 - 2019

YEAR	AGE	BENEFITS	CUMULATE
*****	***	*****	*****
2001	45	\$2,585	\$2,585
2002	46	8,500	11,085
2003	47	9,059	20,144
2004	48	9,655	29,799
2005	49	10,291	40,090
2006	50	10,968	51,058
2007	51	11,690	62,748
2008	52	12,459	75,207
2009	53	13,279	88,486
2010	54	14,152	102,638
2011	55	15,083	117,721
2012	56	16,076	133,797
2013	57	17,134	150,931
2014	58	18,261	169,192
2015	59	19,463	188,655
2016	60	20,743	209,398
2017	61	25,622	235,020
2018	62	26,147	261,167
2019	63	26,800	\$287,967

SANCHEZ \$287,967

LOSS OF PAST PERSONAL CONSUMPTION  
2001 - 2019

PERSONAL			
YEAR	AGE	CONSUMPTION	CUMULATE
*****	***	*****	*****
2001	45	-\$2,522	-\$2,522
2002	46	-8,292	-10,814
2003	47	-8,419	-19,233
2004	48	-8,972	-28,205
2005	49	-9,563	-37,768
2006	50	-10,192	-47,960
2007	51	-10,373	-58,333
2008	52	-11,055	-69,388
2009	53	-11,783	-81,171
2010	54	-12,032	-93,203
2011	55	-12,334	-105,537
2012	56	-17,254	-122,791
2013	57	-17,671	-140,462
2014	58	-18,834	-159,296
2015	59	-19,349	-178,645
2016	60	-20,622	-199,267
2017	61	-23,810	-223,077
2018	62	-63,467	-286,544
2019	63	-65,050	-\$351,594
SANCHEZ		-\$351,594	

SANCHEZ - \$351,594

ECONOMIC LOSS TO DATE  
2001 - 2019

YEAR	AGE	WAGES	EMPLOYEE	PERSONAL	TOTAL	CUMULATE
			BENEFITS	CONSUMPTION		
2001	45	\$9,424	\$2,585	-\$2,522	\$9,487	\$9,487
2002	46	30,988	8,500	-8,292	31,196	40,683
2003	47	33,027	9,059	-8,419	33,667	74,350
2004	48	35,200	9,655	-8,972	35,883	110,233
2005	49	37,516	10,291	-9,563	38,244	148,477
2006	50	39,985	10,968	-10,192	40,761	189,238
2007	51	42,616	11,690	-10,373	43,933	233,171
2008	52	45,420	12,459	-11,055	46,824	279,995
2009	53	48,409	13,279	-11,783	49,905	329,900
2010	54	51,594	14,152	-12,032	53,714	383,614
2011	55	54,989	15,083	-12,334	57,738	441,352
2012	56	58,607	16,076	-17,254	57,429	498,781
2013	57	62,463	17,134	-17,671	61,926	560,707
2014	58	66,573	18,261	-18,834	66,000	626,707
2015	59	70,954	19,463	-19,349	71,068	697,775
2016	60	75,623	20,743	-20,622	75,744	773,519
2017	61	93,409	25,622	-23,810	95,221	868,740
2018	62	95,324	26,147	-63,467	58,004	926,744
2019	63	97,702	26,800	-65,050	59,452	\$986,196
SANCHEZ		\$1,049,823	\$287,967	-\$351,594	\$986,196	

PRESENT VALUE OF FUTURE WAGES  
2020 - 2037

YEAR	AGE	WAGES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
2020	64	\$100,100	0.98765	\$98,864	\$98,864
2021	65	101,101	0.97546	98,620	197,484
2022	66	102,112	0.96342	98,377	295,861
2023	67	103,133	0.95152	98,133	393,994
2024	68	104,164	0.93978	97,891	491,885
2025	69	105,206	0.92817	97,649	589,534
2026	70	106,258	0.91672	97,409	686,943
2027	71	107,321	0.90540	97,168	784,111
2028	72	108,394	0.89422	96,928	881,039
2029	73	109,478	0.88318	96,689	977,728
2030	74	110,573	0.87228	96,451	1,074,179
2031	75	111,679	0.86151	96,213	1,170,392
2032	76	112,796	0.85087	95,975	1,266,367
2033	77	113,924	0.84037	95,738	1,362,105
2034	78	115,063	0.82999	95,501	1,457,606
2035	79	116,214	0.81975	95,266	1,552,872
2036	80	117,376	0.80963	95,031	1,647,903
2037	81	96,139	0.80150	77,055	\$1,724,958

JESUS SANCHEZ

\$1,724,958

PRESENT VALUE OF FUTURE EMPLOYEE BENEFITS  
2020 - 2037

YEAR	AGE	EMPLOYEE BENEFITS	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
*****	***	*****	*****	*****	*****
2020	64	\$27,457	0.98765	\$27,118	\$27,118
2021	65	27,732	0.97546	27,051	54,169
2022	66	28,009	0.96342	26,984	81,153
2023	67	28,289	0.95152	26,918	108,071
2024	68	28,572	0.93978	26,851	134,922
2025	69	28,858	0.92817	26,785	161,707
2026	70	29,147	0.91672	26,720	188,427
2027	71	29,438	0.90540	26,653	215,080
2028	72	29,732	0.89422	26,587	241,667
2029	73	30,030	0.88318	26,522	268,189
2030	74	30,330	0.87228	26,456	294,645
2031	75	30,634	0.86151	26,391	321,036
2032	76	30,940	0.85087	26,326	347,362
2033	77	31,249	0.84037	26,261	373,623
2034	78	31,562	0.82999	26,196	399,819
2035	79	31,878	0.81975	26,132	425,951
2036	80	32,196	0.80963	26,067	452,018
2037	81	26,371	0.80150	21,136	\$473,154

JESUS SANCHEZ \$473,154

PRESENT VALUE OF FUTURE PERSONAL CONSUMPTION  
2020 - 2037

YEAR	AGE	PERSONAL CONSUMPTION	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
*****	***	*****	*****	*****	*****
2020	64	-\$66,647	0.98765	-\$65,824	-\$65,824
2021	65	-67,313	0.97546	-65,661	-131,485
2022	66	-67,986	0.96342	-65,499	-196,984
2023	67	-68,666	0.95152	-65,337	-262,321
2024	68	-69,352	0.93978	-65,176	-327,497
2025	69	-70,046	0.92817	-65,015	-392,512
2026	70	-70,747	0.91672	-64,855	-457,367
2027	71	-71,454	0.90540	-64,694	-522,061
2028	72	-72,169	0.89422	-64,535	-586,596
2029	73	-72,890	0.88318	-64,375	-650,971
2030	74	-73,620	0.87228	-64,217	-715,188
2031	75	-74,356	0.86151	-64,058	-779,246
2032	76	-75,100	0.85087	-63,900	-843,146
2033	77	-75,851	0.84037	-63,743	-906,889
2034	78	-76,609	0.82999	-63,585	-970,474
2035	79	-77,375	0.81975	-63,428	-1,033,902
2036	80	-78,149	0.80963	-63,272	-1,097,174
2037	81	-64,009	0.80150	-51,303	-\$1,148,477

JESUS SANCHEZ

-\$1,148,477

PRESENT VALUE OF FUTURE WAGE AND BENEFIT LOSS  
2020 - 2037

YEAR	AGE	WAGES	EMPLOYEE		TOTAL	CUMULATE
			BENEFITS	CONSUMPTION		
2020	64	\$98,864	\$27,118	-\$65,824	\$60,158	\$60,158
2021	65	98,620	27,051	-65,661	60,010	120,168
2022	66	98,377	26,984	-65,499	59,862	180,030
2023	67	98,133	26,918	-65,337	59,714	239,744
2024	68	97,891	26,851	-65,176	59,566	299,310
2025	69	97,649	26,785	-65,015	59,419	358,729
2026	70	97,409	26,720	-64,855	59,274	418,003
2027	71	97,168	26,653	-64,694	59,127	477,130
2028	72	96,928	26,587	-64,535	58,980	536,110
2029	73	96,689	26,522	-64,375	58,836	594,946
2030	74	96,451	26,456	-64,217	58,690	653,636
2031	75	96,213	26,391	-64,058	58,546	712,182
2032	76	95,975	26,326	-63,900	58,401	770,583
2033	77	95,738	26,261	-63,743	58,256	828,839
2034	78	95,501	26,196	-63,585	58,112	886,951
2035	79	95,266	26,132	-63,428	57,970	944,921
2036	80	95,031	26,067	-63,272	57,826	1,002,747
2037	81	77,055	21,136	-51,303	46,888	\$1,049,635
SANCHEZ		\$1,724,958	\$473,154	-\$1,148,477	\$1,049,635	

PRESENT VALUE OF NET WAGE AND BENEFIT LOSS  
2001 - 2037

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	*****	*****	*****	*****	*****
2001	45	\$9,424	\$2,585	-\$2,522	\$9,487	\$9,487
2002	46	30,988	8,500	-8,292	31,196	40,683
2003	47	33,027	9,059	-8,419	33,667	74,350
2004	48	35,200	9,655	-8,972	35,883	110,233
2005	49	37,516	10,291	-9,563	38,244	148,477
2006	50	39,985	10,968	-10,192	40,761	189,238
2007	51	42,616	11,690	-10,373	43,933	233,171
2008	52	45,420	12,459	-11,055	46,824	279,995
2009	53	48,409	13,279	-11,783	49,905	329,900
2010	54	51,594	14,152	-12,032	53,714	383,614
2011	55	54,989	15,083	-12,334	57,738	441,352
2012	56	58,607	16,076	-17,254	57,429	498,781
2013	57	62,463	17,134	-17,671	61,926	560,707
2014	58	66,573	18,261	-18,834	66,000	626,707
2015	59	70,954	19,463	-19,349	71,068	697,775
2016	60	75,623	20,743	-20,622	75,744	773,519
2017	61	93,409	25,622	-23,810	95,221	868,740
2018	62	95,324	26,147	-63,467	58,004	926,744
2019	63	97,702	26,800	-65,050	59,452	986,196
2020	64	98,864	27,118	-65,824	60,158	1,046,354
2021	65	98,620	27,051	-65,661	60,010	1,106,364
2022	66	98,377	26,984	-65,499	59,862	1,166,226
2023	67	98,133	26,918	-65,337	59,714	1,225,940
2024	68	97,891	26,851	-65,176	59,566	1,285,506
2025	69	97,649	26,785	-65,015	59,419	1,344,925
2026	70	97,409	26,720	-64,855	59,274	1,404,199
2027	71	97,168	26,653	-64,694	59,127	1,463,326
2028	72	96,928	26,587	-64,535	58,980	1,522,306
2029	73	96,689	26,522	-64,375	58,836	1,581,142
2030	74	96,451	26,456	-64,217	58,690	1,639,832
2031	75	96,213	26,391	-64,058	58,546	1,698,378
2032	76	95,975	26,326	-63,900	58,401	1,756,779
2033	77	95,738	26,261	-63,743	58,256	1,815,035
2034	78	95,501	26,196	-63,585	58,112	1,873,147
2035	79	95,266	26,132	-63,428	57,970	1,931,117
2036	80	95,031	26,067	-63,272	57,826	1,988,943
2037	81	77,055	21,136	-51,303	46,888	\$2,035,831
SANCHEZ		\$2,774,781	\$761,121	-\$1,500,071	\$2,035,831	

LOSS OF PAST HOUSEHOLD SERVICES  
2001 - 2019

YEAR	AGE	HOUSEHOLD	
		SERVICES	CUMULATE
*****	***	*****	*****
2001	45	\$2,851	\$2,851
2002	46	9,567	12,418
2003	47	10,071	22,489
2004	48	10,516	33,005
2005	49	10,835	43,840
2006	50	11,257	55,097
2007	51	11,717	66,814
2008	52	11,176	77,990
2009	53	11,293	89,283
2010	54	11,432	100,715
2011	55	11,491	112,206
2012	56	12,165	124,371
2013	57	12,165	136,536
2014	58	12,477	149,013
2015	59	12,785	161,798
2016	60	13,058	174,856
2017	61	13,451	188,307
2018	62	17,573	205,880
2019	63	18,101	\$223,981

SANCHEZ \$223,981

PRESENT VALUE OF FUTURE HOUSEHOLD SERVICES  
2020 - 2037

YEAR	AGE	HOUSEHOLD SERVICES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	\$18,644	0.98765	\$18,414	\$18,414
2021	65	18,830	0.97546	18,368	36,782
2022	66	19,018	0.96342	18,322	55,104
2023	67	19,208	0.95152	18,277	73,381
2024	68	28,132	0.93978	26,438	99,819
2025	69	28,413	0.92817	26,372	126,191
2026	70	28,697	0.91672	26,307	152,498
2027	71	28,984	0.90540	26,242	178,740
2028	72	29,274	0.89422	26,177	204,917
2029	73	29,567	0.88318	26,113	231,030
2030	74	29,863	0.87228	26,049	257,079
2031	75	30,162	0.86151	25,985	283,064
2032	76	26,715	0.85087	22,731	305,795
2033	77	26,982	0.84037	22,675	328,470
2034	78	27,252	0.82999	22,619	351,089
2035	79	27,525	0.81975	22,564	373,653
2036	80	27,800	0.80963	22,508	396,161
2037	81	22,770	0.80150	18,250	\$414,411

JESUS SANCHEZ \$414,411

PRESENT VALUE OF NET HOUSEHOLD SERVICES LOSS  
2001 - 2037

YEAR	AGE	SERVICES	HOUSEHOLD CUMULATE
****	***	*****	*****
2001	45	\$2,851	\$2,851
2002	46	9,567	12,418
2003	47	10,071	22,489
2004	48	10,516	33,005
2005	49	10,835	43,840
2006	50	11,257	55,097
2007	51	11,717	66,814
2008	52	11,176	77,990
2009	53	11,293	89,283
2010	54	11,432	100,715
2011	55	11,491	112,206
2012	56	12,165	124,371
2013	57	12,165	136,536
2014	58	12,477	149,013
2015	59	12,785	161,798
2016	60	13,058	174,856
2017	61	13,451	188,307
2018	62	17,573	205,880
2019	63	18,101	223,981
2020	64	18,414	242,395
2021	65	18,368	260,763
2022	66	18,322	279,085
2023	67	18,277	297,362
2024	68	26,438	323,800
2025	69	26,372	350,172
2026	70	26,307	376,479
2027	71	26,242	402,721
2028	72	26,177	428,898
2029	73	26,113	455,011
2030	74	26,049	481,060
2031	75	25,985	507,045
2032	76	22,731	529,776
2033	77	22,675	552,451
2034	78	22,619	575,070
2035	79	22,564	597,634
2036	80	22,508	620,142
2037	81	18,250	\$638,392
	SANCHEZ		\$638,392

LOSS OF PAST LVL OF JESUS  
2001 - 2019

YEAR	AGE	LVL	CUMULATE
*****	***	*****	*****
2001	45	\$29,936	\$29,936
2002	46	100,782	130,718
2003	47	102,677	233,395
2004	48	106,024	339,419
2005	49	109,650	449,069
2006	50	112,436	561,505
2007	51	117,023	678,528
2008	52	117,128	795,656
2009	53	120,314	915,970
2010	54	112,119	1,028,089
2011	55	125,734	1,153,823
2012	56	127,921	1,281,744
2013	57	129,840	1,411,584
2014	58	130,827	1,542,411
2015	59	131,782	1,674,193
2016	60	134,510	1,808,703
2017	61	137,348	1,946,051
2018	62	139,971	2,086,022
2019	63	142,771	\$2,228,793

SANCHEZ                    \$2,228,793

PRESENT VALUE OF FUTURE LVL OF JESUS  
2020 - 2037

YEAR	AGE	LVL	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
*****	***	*****	*****	*****	*****
2020	64	\$145,626	0.98765	\$143,828	\$143,828
2021	65	145,626	0.97546	142,052	285,880
2022	66	145,626	0.96342	140,299	426,179
2023	67	145,626	0.95152	138,566	564,745
2024	68	145,626	0.93978	136,856	701,601
2025	69	145,626	0.92817	135,166	836,767
2026	70	145,626	0.91672	133,498	970,265
2027	71	145,626	0.90540	131,850	1,102,115
2028	72	145,626	0.89422	130,222	1,232,337
2029	73	145,626	0.88318	128,614	1,360,951
2030	74	145,626	0.87228	127,027	1,487,978
2031	75	145,626	0.86151	125,458	1,613,436
2032	76	145,626	0.85087	123,909	1,737,345
2033	77	145,626	0.84037	122,380	1,859,725
2034	78	145,626	0.82999	120,868	1,980,593
2035	79	145,626	0.81975	119,377	2,099,970
2036	80	145,626	0.80963	117,903	2,217,873
2037	81	118,097	0.80150	94,655	\$2,312,528

JESUS SANCHEZ

\$2,312,528

PRESENT VALUE OF NET LVL OF JESUS  
2001 - 2037

YEAR	AGE	LVL	CUMULATE
*****	***	*****	*****
2001	45	\$29,936	\$29,936
2002	46	100,782	130,718
2003	47	102,677	233,395
2004	48	106,024	339,419
2005	49	109,650	449,069
2006	50	112,436	561,505
2007	51	117,023	678,528
2008	52	117,128	795,656
2009	53	120,314	915,970
2010	54	112,119	1,028,089
2011	55	125,734	1,153,823
2012	56	127,921	1,281,744
2013	57	129,840	1,411,584
2014	58	130,827	1,542,411
2015	59	131,782	1,674,193
2016	60	134,510	1,808,703
2017	61	137,348	1,946,051
2018	62	139,971	2,086,022
2019	63	142,771	2,228,793
2020	64	143,828	2,372,621
2021	65	142,052	2,514,673
2022	66	140,299	2,654,972
2023	67	138,566	2,793,538
2024	68	136,856	2,930,394
2025	69	135,166	3,065,560
2026	70	133,498	3,199,058
2027	71	131,850	3,330,908
2028	72	130,222	3,461,130
2029	73	128,614	3,589,744
2030	74	127,027	3,716,771
2031	75	125,458	3,842,229
2032	76	123,909	3,966,138
2033	77	122,380	4,088,518
2034	78	120,868	4,209,386
2035	79	119,377	4,328,763
2036	80	117,903	4,446,666
2037	81	94,655	\$4,541,321

SANCHEZ \$4,541,321